

# SYPHILIS STRIKES MILWAUKEE

The City of Milwaukee has seen a 300% rise in syphilis cases during the COVID-19 Pandemic

*Increasing cases in women, persons who exchange sex for money, and IV drug users.*

## THE ISSUE

Sexually Transmitted Infections (STIs) in the United States have been increasing since 2013.<sup>1</sup> The city of Milwaukee has experienced ebbs and flows to its rates of STIs. The COVID-19 pandemic has highlighted inequities and disparities that exist with respect to disease burden, morbidity, and mortality.<sup>2</sup> Similarly, an alarming post-pandemic trend has been noted in STIs and specifically in the incidence of syphilis that has risen by nearly 300% over pre-pandemic levels. This calls for action on the part of health care providers and public health colleagues across the Milwaukee region.

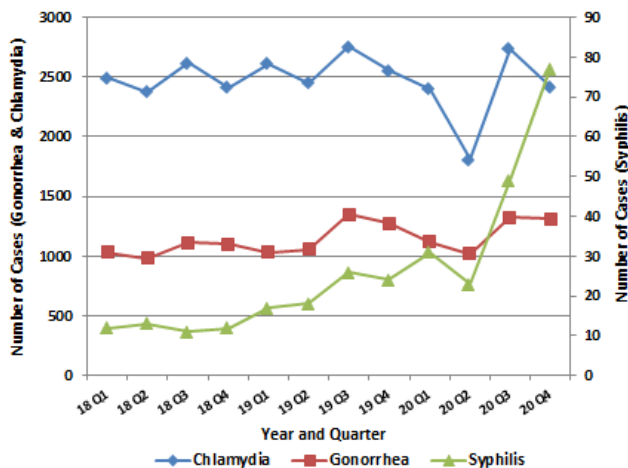
## METHODS

We examined data from the Wisconsin Electronic Disease Surveillance System (WEDSS) from January 2015 through December 2020, and then focused on cases from January 2018 through December 2020. Incident cases were divided into two time periods, January 2018-June 2019 (18Q1-19Q2) and July 2019-December 2020 (19Q3-20Q4).

## EXPLORING THE DATA

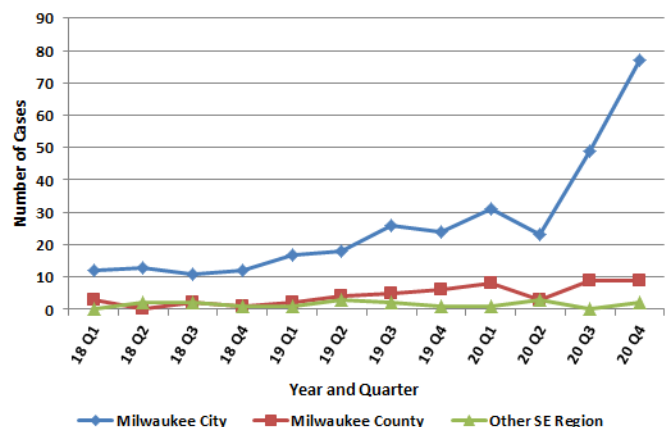
**Figure 1. STI Trends, City of Milwaukee, 2018 — 2020**

Rates of chlamydia and gonorrhea in the City of Milwaukee have remained relatively constant, while greater variation in the number of syphilis cases have been observed in the last 5 years. The more recent rise in syphilis began in 2018 and continued throughout 2019 and 2020, currently rising to epidemic levels.



**Figure 2. Syphilis Incidence Trends 2018 — 2020**

A significant rise in new syphilis cases was seen in the City of Milwaukee during 2020, in particular the later half of the year. As the figure shows, this spike in cases is limited to the City of Milwaukee and does not affect incidence within Milwaukee County or the surrounding Southeast Region of Wisconsin.



### City of Milwaukee Syphilis Cases

The table to the left lists the number of cases of syphilis in the City of Milwaukee for the time periods of study. Cases are divided into primary and secondary syphilis (P&S), which are the most contagious periods of illness.

Time Period	Number of Primary Cases	% of Total	Number of Secondary Cases	% of Total	Total syphilis cases (P&S)
Jan 2018-June 2019	35	42.2%	48	57.8%	83
July 2019-Dec 2020	126	54.7%	104	45.2%	230

Risk factors for new syphilis infection during the recent 18 month time period (July 2019-December 2020) include: exchange of sex for money or drugs, injection drug use, and men who have sex with women. Gender distribution has also changed over these two time periods, with a larger proportion of cases among females. Racial inequities persist, with the Black non-Hispanic population experiencing the majority of syphilis cases (see Table on right).

Race/Ethnicity	% Cases 2018-2020
Black	65.9%
White	14.5%
Hispanic	14.5%

1. National Overview — Sexually Transmitted Disease Surveillance, 2019. <https://www.cdc.gov/std/statistics/2019/overview.htm>. Accessed May 24, 2021.
2. City of Milwaukee COVID-19 Statistics. <https://city.milwaukee.gov/coronavirus>. Accessed May 24, 2021.

## CONGENITAL SYPHILIS<sup>3</sup>, a unique risk

**Figure 3. Syphilis Incidence Among Females, City of Milwaukee, by Quarter and Year**

The dashed line in Figure 3 indicates the **statistically significant increase** in the proportion of new cases among females. The proportion of females over age 29 (from 12.5% to 51.2%) as well as the median age (from 21 years to 30 years) rose over the study time period.

### Babies born with congenital syphilis can have:

deformed bones

severe anemia

enlarged liver and spleen

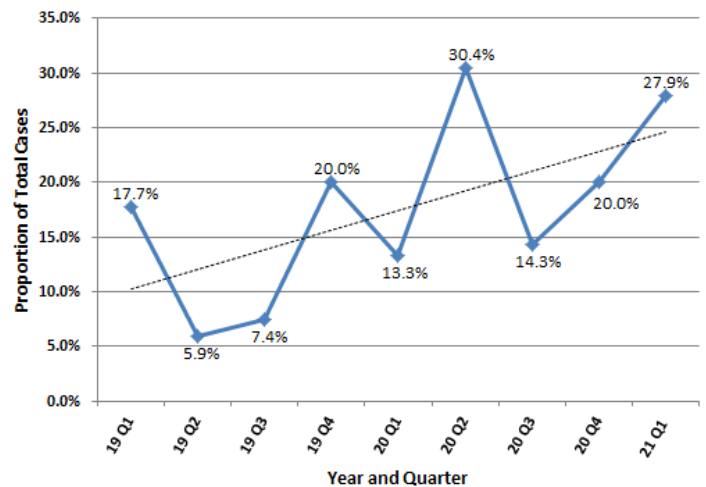
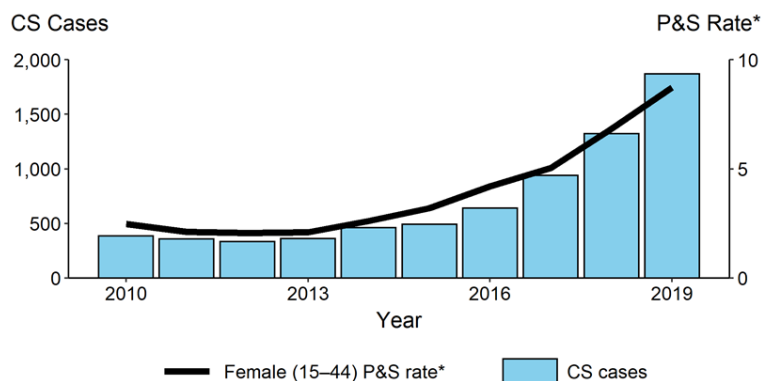
jaundice

blindness

deafness

skin rashes

meningitis



**More cases among females of reproductive age increases the risk for congenital syphilis.**

**Figure 4. Syphilis Rates in Females of Reproductive Age in the United States and Cases of Congenital Syphilis**

Coincident with the increase in total syphilis cases and the proportion of cases in females, cases of P&S syphilis in pregnant women are increasing both nationally and locally.<sup>4</sup> This has resulted in a similar rise of infants evaluated for congenital syphilis (CS). If left undiagnosed, syphilis in pregnancy can lead to miscarriage, stillbirth, prematurity, low birth weight, or even infant death shortly after birth. In 2020, the City of Milwaukee had 7 cases of CS, higher than any year in recent decades.

## SUMMARY AND RECOMMENDATIONS

We have an epidemic of syphilis in the City of Milwaukee coincident to the COVID-19 pandemic. New diagnoses are increasing among women, individuals who exchange sex for money or drugs, and injection drug users. In the City of Milwaukee, the non-Hispanic Black population experiences the heaviest burden of infection demonstrating a significant racial inequity in sexual and reproductive health outcomes.

The City of Milwaukee Health Department is committed to seeking additional resources to enhance surveillance and expanded testing to target high risk individuals. We seek collaboration with others to combat this new epidemic.

### Recommendations for health providers and partner organizations:

- **Prenatal Testing** — Test all pregnant people living in Milwaukee County for syphilis at the time of pregnancy diagnosis, third trimester and at the time of delivery.
- **Capture Missed Opportunities** — For pregnant people that have not engaged in prenatal care, utilize any contact with the health care system to test for syphilis.
- **Newborn Nursery** — No newborn infant should be discharged from the hospital without determination of the mother's serologic status for syphilis at the time of delivery.
- **Comprehensive Workups** — For all people diagnosed with syphilis, collect a careful history looking for any signs of syphilis affecting hearing, vision, or the nervous system to guide appropriate treatment and prevent complications.

**Consult experts at the City of Milwaukee Health department for questions regarding syphilis testing, treatment or follow-up by contacting 414-286-6800.**

3. <https://www.cdc.gov/std/syphilis/stdfact-congenital-syphilis.htm>. Accessed May 25, 2021.

4. CDC 2019 Sexually Transmitted Disease Surveillance, Women and Infants. <https://www.cdc.gov/std/statistics/2019/figures.htm>. Accessed June 3, 2021.